

## SECTION 2 - MANAGEMENT OF WASTE

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## Synopsis

**NOTE:** This section is promulgated to ensure proper management of wastes generated by NWS facilities and work sites. The section applies to all NWS facilities where garbage, recyclables, hazardous waste or excess hazardous materials are generated.

### Initial Implementation Requirements:

- Designate an Individual to Coordinate the Hazardous Waste Management Effort
- Compare Site/Facility Operations with the Requirements of this Procedure
- Identify the personnel impacted by this procedure
- Perform a Waste Survey (2.6)
  - Categorize the wastes as sewage, solid wastes, hazardous wastes, universal wastes (2.7, 2.8, 2.9.3, 2.10)
  - Determine the quantity of hazardous waste and universal waste generated
  - Determine the appropriate generator category (2.9.5)
  - If required, obtain EPA Identification Number for hazardous waste generation activity (2.9.6)
  - Assess storage practices (2.9.2, 2.10.1, Attachment A)
  - Establish recordkeeping system for the uniform manifest, annual/biennial report, exception reports, training records (2.9.8)
  - Train affected NWS employees [2.9.6b (1), 2.9.6c (7)]

### Recurring and Annual Task Requirements:

- Complete and file hazardous waste generator annual/biennial report, if required [2.9.6c(17)]
- Complete and sign manifest (2.9.7) and Land Disposal Restriction form for each hazardous waste shipment (2.9.8b)
- Continually attempt to reduce or eliminate waste generation
- Become aware of new waste recycling opportunities in the community

Management of Waste Checklist		YES	NO	NA
<b>Basic Program</b>				
1.	Has an inventory of all wastes generated at the facility or work site been performed? (2.6)	—	—	—
2.	Has each identified waste been reviewed to properly categorize it as sewage, solid, hazardous, universal, or specific NWS-generated waste? (2.7, 2.8, 2.9.3, 2.10, 2.11)	—	—	—
3.	Has the quantity of each waste been estimated? (2.6)	—	—	—
<b>Generator Requirements</b>				
1.	Based on the total quantity of waste generated, has the facility/work site determined the appropriate category of hazardous waste generator? (2.9.5)	—	—	—
2.	If the facility or work site is a <b>Very Small Quantity Generator</b> (i.e., produces less than 100 kilograms (220 pounds) of hazardous waste per month) (2.9.6a)	—	—	—
a.	Are all wastes sent to an EPA/State-approved hazardous waste facility, a State-approved solid waste facility or a recycling facility? [2.9.6.a.(4)]	—	—	—
b.	Are procedures in place to ensure the accumulation or stored waste never exceeds 1,000 kg? [2.9.6.a(7)]	—	—	—
c.	Are affected personnel trained to ensure they know how to manage the waste and respond to emergencies? [2.9.6a(5)]	—	—	—
3.	If the facility or work site is a <b>Small Quantity Generator</b> (i.e., produces more than 100 kg/mo but less than 1,000 kg/mo less of hazardous waste per month) (2.9.6.b)	—	—	—
a.	As a Best Management Practice, are affected personnel trained to ensure they know how to manage the waste and respond to emergencies? [2.9.6b(1)]	—	—	—
b.	Are procedures in place to ensure hazardous wastes are not stored or accumulated for more than 180-days or 270-days if the waste is transported more than 200-miles to a TSD facility)? [2.9.6b(3)]	—	—	—
c.	Are procedures in place to ensure the accumulated waste never exceeds 6,000 kg? [2.9.6b(4)]	—	—	—
d.	Are procedures developed for emergency response to hazardous waste incidents and included in Occupant Emergency Plan [2.9.6b(8)]?	—	—	—
e.	Are selected personnel trained in how to complete the Manifest and	—	—	—

Management of Waste Checklist	YES	NO	NA
Land Disposal Form? [2.9.6b(1)]			
4. If the facility or work site is a <b>Large Quantity Generator</b> , (i.e. produces 1,000 kilograms or more of hazardous waste per month or one kilogram or more of acutely hazardous waste per month) (2.9.6c):	—	—	—
a. Has it applied and received an EPA ID number? [2.9.6c(2)]	—	—	—
b. Are procedures in place to ensure hazardous wastes are not stored or accumulated more than 90-days? [2.9.6c(3)(a)]	—	—	—
c. - If the facility/work site is a Large Quantity Generator , does the facility Occupant Emergency Plan incorporate emergency procedures for hazardous waste incidents? [2.9.6c(5)]	—	—	—
- If the facility/work site is a Large Quantity Generator (storage longer than 90 days) does the facility have a Contingency Plan for hazardous waste incidents? [2.9.6c(5)]	—	—	—
d. Are facility personnel trained in hazardous waste management and how to respond to emergencies? [2.9.6c(7)]	—	—	—
e. Are selected personnel trained in how to complete the Manifest and Land Disposal Restriction Form? [2.9.6c(8) & (9)]	—	—	—
f. Are all wastes packaged, labeled and marked in accord with U.S. DOT regulations? [2.9.6c(10) & (11)]	—	—	—
g. Does the facility/work site ensure the transporter has the appropriate placards? [2.9.6c(12)]	—	—	—
h. Are all Manifests and Land Disposal notices retained for at least 3-years from date of shipment? [2.9.6c(13)]	—	—	—
i. If wastes are shipped outside the United States, has the facility/work site notified the U.S. EPA and received an approval? [2.9.6c(16)]	—	—	—
j. Are the containers of hazardous waste in the accumulation area:			
1) In good condition? [2.9.6c(3)(b)(1)]	—	—	—
2) Properly marked with the words “Hazardous Waste,” the identity of the contents, hazards associated with the contents and the date accumulation began? [2.9.6c(3)(e)]	—	—	—
3) Closed? [2.9.6c(3)(b)(4)]	—	—	—
4) Stored compatibly? [2.9.6c(3)(c)]	—	—	—
5) Stored with adequate aisle space? [2.9.6c(4)(e)]	—	—	—
6) Not stacked over 2 drums high?	—	—	—
7) Inspected weekly? [2.9.6(c)(b)(6)]	—	—	—

Management of Waste Checklist	YES	NO	NA
k. Does the accumulation area:			
1) Have a telephone or two-way radio accessible? [2.9.6c(4)(b)]	—	—	—
2) Have appropriate type and number of fire extinguishers? [2.9.6c(4)(b)]	—	—	—
3) Have spill control equipment? [2.9.6c(4)(b)]	—	—	—
4) Have decontamination equipment? [2.9.6c(4)(b)]			
5) Have an adequate source of water/foam for fires? [2.9.6c(4)(b)]	—	—	—
<b>Satellite Accumulation</b>			
1. Does the facility or work site use satellite accumulation areas? (2.9.6d)	—	—	—
2. Are procedures in-place to ensure the total amount of waste accumulated is less than 55-gallons of hazardous waste or 1-quart of acutely hazardous waste? [2.9.6d(1)]	—	—	—
3. Is the area at or near the point of generation? [2.9.6d(2)]	—	—	—
4. Are the containers in good condition? [2.9.6d(3)]	—	—	—
5. Are the containers kept closed except when adding or removing wastes? [2.9.6d(4)]	—	—	—
6. Are all containers marked with the hazards associated with the contents and the words “Hazardous Waste” or other words to identify the contents? [2.9.6d(5)]	—	—	—
<b>Universal Waste</b>			
1. Does the facility generate and/or store universal wastes (batteries, pesticides, fluorescent bulbs, mercury-containing thermostats or other EPA/State-identified universal wastes)? (2.10)	—	—	—
2. Has the facility/work site trained all personnel regarding the legal status of universal wastes to ensure these wastes are not disposed with the trash or other solid wastes? [2.10.1a(4)]	—	—	—
3. Does the facility/work site segregate and properly store these wastes prior to shipment to a recycling facility? [2.10.1a(1)]	—	—	—
4. If the facility/work site stores <5,000 kg of universal waste (i.e., is a small quantity handler), are procedures in place to ensure:	—	—	—
a. The wastes are managed to prevent leakage? [2.10.1a(1)]	—	—	—
b. The container is properly labeled with the identity of the contents and the date storage began? [2.10.1a(2) and (3)]	—	—	—
c. The wastes are not stored or accumulated for longer than one year? [2.10.1a(3)]	—	—	—

Management of Waste Checklist	YES	NO	NA
d. Personnel are trained to respond to emergencies? [2.10.1a(4)(5)]	—	—	—
5. If the facility stores $\geq 5,000$ kg universal waste (i.e., is a Large Quantity Handler):	—	—	—
a. Has it received an EPA Hazardous Waste Generator Number? [2.10.1b (3)]	—	—	—
b. Are procedures in place to ensure the universal wastes are properly segregated and stored? [2.10.1b(4)]	—	—	—
c. Has an internal inventory system been established and implemented to ensure these wastes are not stored more than one year? [2.10.1b(5)(d)]	—	—	—

## SECTION 2 - MANAGEMENT OF WASTE

### 2.1 Purpose and Scope

In performing its mission, National Weather Service (NWS) facilities and work locations generate several types of waste materials. These wastes include sewage, food scraps and other garbage (known as “solid waste”), recyclables such as oils, batteries, etc., hazardous wastes and excess materials that must be disposed. To ensure these wastes are properly managed, this section has been promulgated. The section applies to all NWS facilities and work sites where waste is generated.

### 2.2 Definitions

<b>Designated Person</b>	An NWS employee assigned the task of coordinating the waste management effort. This role is normally assigned to the Environmental Focal Point, but may be assigned to another NWS employee.
<b>Electronic Waste</b>	Discarded computers, cathode ray tubes (CRTs), cell phones, fax machines, or electronic instrumentation.
<b>Generator</b>	Any person (i.e. an individual, trust, firm, joint stock company, Federal Agency, corporation, partnership, association, State, municipality, commission, political subdivision of a State or any interstate body) by site, whose act or process produces hazardous waste identified or listed in 40 CFR Part 261 or whose act first causes a hazardous waste to become subject to regulation.
<b>Hazardous Waste</b>	A solid waste that (1) is not excluded by 40 CFR 261.4(b) and (2) meets the characteristic of a hazardous waste in Subpart C or (3) is listed in Subpart D of 40 CFR 261 or, is a mixture of a solid waste and a hazardous waste.
<b>Mercury Containing Equipment</b>	A device or part of a device that contains elementary mercury integral to its function. It can be managed as a universal waste. If the mercury is in the device accidentally (e.g., equipment does not contain mercury in its regular use) or the device was contaminated by an external source of mercury, the device cannot be managed as universal waste.
<b>Operating Unit</b>	Includes the National Centers for Environmental Prediction (NCEP), National Data Buoy Center (NDBC), NWS Training Center (NWSTC), National Reconditioning Center (NRC), National Logistics Support Center (NLSC), Radar Operations Center (ROC) or the Sterling Field Support Center (SFSC).
<b>Pollution Prevention</b>	A continual process to use materials, processes or practices that reduce or eliminate the creation of pollutants or waste at the source. It includes practices that reduce the use of hazardous materials, energy, water or other resources and practices that protect natural resources through conservation or more efficient use.

<b>Recyclables</b>	Solid wastes that can be treated or processed to allow direct reuse or introduction into new products.
<b>Solid Waste</b>	A term used to describe garbage. The EPA defines it as any discarded material that is not excluded from regulation by 40 CFR 261.4(a) or that is not excluded by a variance granted in 40 CFR 260.30 and 260.31.
<b>Station Manager</b>	For the purpose of this procedure, the Station Manager shall be either the NWS Regional Director; NCEP Director; Directors of Centers under NCEP (Aviation Weather Center, NP6; Storm Prediction Center, NP7; Tropical Prediction Center, NP8, and Space Weather Prediction Center, NP9); Directors of the NDBC, NWSTC, and Chiefs of NRC, ROC and SFSC facilities; or Meteorologist in Charge (MIC), Hydrologist in Charge (HIC), or Official in Charge (OIC).
<b>Universal Wastes</b>	Hazardous wastes that if recycled are subject to the universal waste requirements in 40 CFR Part 273. Wastes in this category include batteries, pesticides, thermostats, fluorescent bulbs or mercury containing equipment.

### 2.3 Acronyms Employed in this Section

ACM	Asbestos-Containing Material
AWPAG	All Weather Precipitation Accumulation Gauge
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
COTR	Contracting Officer's Technical Representative
CPU	Central Processing Unit
CRT	Cathode Ray Tube
CWA	Clean Water Act
DOT	Department of Transportation
EPA	Environmental Protection Agency
HIC	Hydrologist-In-Charge
HUD	Housing and Urban Development
LBP	Lead-Based Paint
MIC	Meteorologist-in-Charge
MOU	Memorandum of Understanding
NCEP	National Centers for Environmental Prediction
NDBC	National Data Buoy Center



SECO	NOAA Safety and Environmental Compliance Office
NOAA	National Oceanic and Atmospheric Administration
NRC	National Reconditioning Center
NWS	National Weather Service
NWSH	National Weather Service Headquarters
OIC	Official-in-Charge
PCBs	Polychlorinated Biphenyls
POTW	Publicly Owned Treatment Works
ppm	parts per million
RCRA	Resource Conservation Recovery Act
ROC	Radar Operations Center
SFSC	Sterling Field Support Center
SQG	Small Quantity Generator
SWDA	Solid Waste Disposal Act
TCLP	Toxicity Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
VSQG	Very Small Quantity Generator

## 2.4 Regulatory Requirements

### 2.4.1 Federal

Because the scope of waste management is so broad, this area is regulated by several Federal Laws.

- Solid waste is regulated by the Solid Waste Disposal Act of 1965 (SWDA) as amended. The regulations created under the authority of this statute can be found in 40 CFR Parts 243 to 259.
- Hazardous waste is regulated by the Resource Conservation and Recovery Act of 1976 (RCRA). The regulations created under the authority of this statute can be found in 40 CFR Parts 260 to 279.
- The discharge of sewage and other wastewater either directly into the “waters of the United States” or indirectly into a publicly owned treatment works is regulated by the Clean Water Act (CWA). The regulations created under the authority of this act can be found in 40 CFR Parts 100-140.
- Polychlorinated biphenyls (PCBs), lead-based paint (LBP) and radon are regulated under the Toxic Substances Control Act of 1976 (TSCA). This act also regulates the manufacture, production and importation of chemical substances. The regulations created under this act can be found in 40 CFR Parts 700 to 766.

### **2.4.2 State**

Most states are authorized by the Environmental Protection Agency (EPA) to manage their own programs for solid and hazardous waste as well as wastewater discharges. Some have also created management programs for PCBs, lead-based paint and other hazardous chemicals.

### **2.4.3 Local**

The use of septic systems is typically regulated by a local Department of Health.

## **2.5 Contracting/Contractor Considerations**

When using a contractor to transport, treat or dispose of a waste, the NWS does not transfer legal liability for improper management with the physical transfer of the waste. As a result, all new and existing contracts must be carefully scrutinized to maintain minimum liability for the NWS and its employees.

### **2.5.1 Contract Language**

All contracts must be reviewed to assure that the contract clearly mandates that the contractor comply with the law. With the assistance of the Contracting Officer's Technical Representative (COTR), NWS facilities and personnel will review all existing contracts to ensure they include a phrase mandating the contractor to "comply with all applicable federal, state and local laws pertaining to the proper transportation, management and disposal of wastes and materials."

### **2.5.2 Review of the Contractor**

Because the law can hold the NWS and its employees responsible for the mismanagement of NWS-generated wastes by a contractor, it is important that NWS facilities and work sites deal with responsible contractors.

Prior to using the services of a contractor, contact the NWS Regional/Operating Unit Environmental/Safety Coordinator and/or NWS Headquarters (NWSH) Environmental and Safety staff and ask them to check with the state and/or EPA to determine the compliance history of the contractor. Also, determine if there are prior citations or other legal sanctions for improper or illegal waste management practices by the contractor. If so, how have these been resolved? What is the current enforcement status of the contractor?

Also, if possible, review the financial situation of the contractor to determine if the contractor has sufficient resources and/or the necessary insurance to protect the NWS from unexpected liabilities. The NWSH Environmental and Safety staff or COTR can provide assistance in this effort.

## **2.6 The Waste Survey**

Because many of the requirements under the applicable federal and state laws are based on the type and quantity of each waste generated at a geographic location, the designated person for each NWS facility and work site must perform a waste survey to document the existence and characteristics of each waste.

The waste survey will include a list of each identified waste or type of waste generated on the site and its approximate volume in either pounds or kilograms or gallons and, if accumulated or stored prior to shipment, the type of container(s) employed, where it is stored, who transports it

off-site and where does it go for ultimate disposal. Attachment A is a Waste Survey Form that can be used to gather this information.

## **2.7 Sewage**

Because of the health threats due to improper management of sewage, the management of sewage must be reviewed for each NWS facility. Because sewage is normally treated off-site by a municipal treatment plant or on-site using a septic system, the requirements for this review will vary.

### **2.7.1 Municipal Treatment Plant**

For NWS facilities using a municipal sewage treatment facility [also known as a Publicly-Owned Treatment Works (POTW)], the Station Manager must ensure that no material that could damage the treatment plant or cause a treatment upset is released into the system from the NWS facility. Contact should be made with the POTW to obtain a list of items that are prohibited from purposeful or accidental discharge. .

All employees who work with the materials that could cause a problem if released into the system must be informed of this prohibition and provided instruction on procedures in-place to contain these materials if spilled or released.

### **2.7.2 Septic Systems**

Because of the sensitivity of septic systems to materials commonly used at NWS facilities and work sites, a list of prohibited items must be prepared. If necessary, contact the NWS Regional/Operating Unit Environmental/Safety Coordinator and/or NWSH Environmental and Safety staff for assistance. All employees must then be informed that a septic system is used to treat sewage and wastewater and provided with the list of personal care items (i.e., some medications) and other work-related materials (i.e., battery acid) that cannot be released into the system. Additionally, employees working with materials that could upset the septic system must be informed of the procedures to use to contain these materials if spilled or released.

## **2.8 Solid Waste**

Office trash, food scraps and other non-hazardous garbage are collectively referred to as “solid waste.” This is a legal term and does not refer to the physical form of the waste. A solid waste can be a liquid, contain gas or a solid material. This waste is regulated by State and local laws.

Solid waste must be kept segregated from “hazardous waste,” “universal waste” and other specially regulated wastes such as used oil or Polychlorinated Biphenyls (PCBs) and will be further segregated into “recyclable” and “disposable” material.

### **2.8.1 Recyclable Solid Waste**

There are several types of solid waste that should be recycled to the greatest extent possible. These wastes include:

- a. office paper, magazines, newspapers, cardboard
- b. aluminum cans
- c. glass jars, bottles and other container

- d. scrap metal
- e. wire
- f. plastic materials

Because solid waste recycling programs are normally operated by local governments, the Designated Person must check with the local officials to determine the existence and requirements for the recycling effort.

To make it as convenient as possible for all facility employees to actively participate in the program, collection facilities (i.e., individual containers) for recyclables will be established and located to allow segregation of the materials by category.

### **2.8.2 Disposable Solid Waste**

Solid waste for disposal will be removed from work areas on a scheduled basis and stored in a well-ventilated area, secure from attack by vermin, rodents or other animals. The storage area will be contained to prevent fire, safety or health hazards or inadvertent discharges to the storm water system, soil or surface water.

All facility personnel must be informed which materials are prohibited from disposal via the solid waste disposal program.

### **2.8.3 Medical Wastes**

As required by paragraph 30.3.13 of Procedure 30 (Office Safety) and 33.3.5 of Procedure 33 (Bloodborne Pathogens) of NWSM 50-1115 (Occupational Safety & Health Manual), contaminated reusable sharps and other medical wastes are required to be collected in closable, puncture-resistant, leak proof, labeled or color-coded containers. These containers must be easily accessible to facility personnel, kept upright during use, routinely replaced, and kept closed and placed in secondary containment for disposal. Contact the NWS Regional/Operating Unit Environmental/Safety Coordinator and/or NWSH Environmental and Safety staff for assistance in locating a contractor. Usually these contractors are required to obtain a license from the state health or environmental department.

**NOTE:** Verify state-specific requirements for management and disposal of medical waste.

## **2.9 Hazardous Waste**

### **2.9.1 Responsibility**

Because of the special threat to human health and the environment, hazardous waste requires a greater amount of control. In the role as the Designated Responsible Official, the Station Manager bears direct legal responsibility for the proper management of these wastes.

### **2.9.2 Enforcing Agency**

Under the Resource Conservation and Recovery Act (RCRA), the states and U.S. territories can manage the hazardous waste programs within their borders if authorized by the EPA. Thus far, 48 states and Guam have received this authorization. To achieve approved program status (RCRA Authorization), a States' program must be at least as stringent as the Federal program.

State may adopt more stringent requirements. The States of Alaska and Iowa have not - nor has Puerto Rico or the other Pacific territories.

As a result, NWS facilities and/or work sites located in an authorized state or territory must review and comply with their state's or territory's regulations. NWS facilities and/or work sites located in states or territories that have not received authorization must comply with latest EPA RCRA Program requirements.

NWS facilities located in another country (i.e., in the South Pacific) must comply with that country's environmental regulations and, as a result of the NWS Policy Directive PD-50-51, Environmental Compliance, with the U.S. EPA regulations.

As a baseline, this procedure will reference EPA regulations that are found in Title 40 of the Code of Federal Regulations. State regulatory requirements for generators may be more stringent than the federal program. To help current and potential hazardous waste generators follow the regulations in their state, EPA provided a map and an alphabetically linked list of states and U.S. territories:

<https://www.epa.gov/hwgenerators/links-hazardous-waste-programs-and-us-state-environmental-agencies>

NWS facilities that have questions regarding state-specific hazardous waste generator requirements must contact the NWSH Environmental and Safety staff or NWS Regional/Operating Unit Environmental/Safety Coordinator for assistance. . Local agencies can be contacted by site personnel, if required.

**Note:** The EPA Administrator signed the final Hazardous Waste Generator Improvements Rule on October 28, 2016 and it was published in the *Federal Register* (FR) on November 28, 2016.

Examples of the significant changes are listed below:

1. Allowing Very Small Quantity Generators (VSQGs) (previously known in the federal regulations as "Conditionally Exempt Small Quantity Generators" - CESQGs) to send hazardous waste to a large quantity generator (LQG) that is under the control of the same person and consolidate it there before sending it on to management at a RCRA-designated facility, provided certain conditions are met.
2. Allowing a VSQG or a small quantity generator (SQG) to maintain its existing generator category in the case of an event in which the VSQG or SQG generates a quantity of hazardous waste in a calendar month that would otherwise bump the generator into a more stringent generator regulatory category.
3. Updating the emergency response and contingency planning provisions for SQGs and LQGs to include Local Emergency Planning Committees (LEPC) among those emergency planning organizations with which a generator may make response arrangements and to require that new and existing LQGs submit quick reference guides with the key information when they either develop or update their contingency plans to local responders for easy access during an event.
4. Requiring periodic re-notification for SQGs every four years (SQGs only notify once under the current system).

5. Revising the regulations for labeling and marking of containers and tanks to clearly indicate the hazards of the hazardous waste contained inside.

### 2.9.3 Identification of Hazardous Wastes

The hazardous waste identification procedure can become complicated. Contact the NWSH Environmental and Safety staff if assistance is required. A solid, liquid or gas that is discarded is defined as a “solid waste.” If its disposal poses a threat to human health or the environment, a solid waste may be considered a “hazardous waste.” The EPA regulations governing the hazardous waste identification process are found in [40 CFR 261](#) (To determine if a discarded material is a hazardous waste):

- a. Review 40 CFR 261.4 to determine if it is excluded. If not,
- b. Determine if it is a listed hazardous waste and/or
- c. Determine if it has any of the characteristics of a hazardous waste.

#### 1) Excluded Wastes

In [40 CFR 261.4](#), the EPA has identified a number of wastes that are excluded from regulation as hazardous wastes because they are not legally considered “solid wastes.” Of these, NWS facilities or worksites usually only generate sewage. After reviewing the list, if there are any questions regarding waste qualification as an exempted solid waste, contact the NWS Regional/Operating Unit Environmental/Safety Coordinator and/or NWSH Environmental and Safety staff for guidance.

#### 2) Listed Hazardous Wastes

If a waste is not excluded from regulation by 40 CFR 261.4, then the lists of hazardous wastes in Subpart D of 40 CFR 261 (or State equivalent) must be reviewed. The EPA has created three (3) lists of solid wastes that are regulated as hazardous waste:

- a) Hazardous wastes from non-specific sources
- b) Hazardous wastes from specific sources, and
- c) Discarded commercial chemical products, off-specification species, container residues and spill residues thereof.

For NWS activities, hazardous wastes within only two of the lists must be considered. The listing of “hazardous wastes from specific sources” is only applicable to the defined industrial production activity and is not applicable to NWS operations or the wastes they generate.

#### 3) Commercial Chemical Products, Off-specification Species, Container Residues and Spill Residues Thereof

If the solid waste to be discarded is an:

- unused material,
- excess material,
- a container of material that does not meet the legal definition of “empty”

[see 2.9.3 d] or

- a residue from a spill of material,

Review the EPA lists in [40 CFR 261.33](#) or the state/territory equivalent.

If the material or its principle active ingredient is listed on either the “acute” list in 40 CFR 261.33(e) or the “toxic” list in 40 CFR 261.33(f), the waste is a hazardous waste and assigned the “P” or “U” number corresponding to its listing.

#### 4) Hazardous Waste from Non-Specific Sources

Review the list of hazardous wastes from non-specific sources in [40 CFR 261.31](#) or the State equivalent with a focus on the listings for the spent solvents F001, F002, F003, F004 and F005. If the solid waste is listed, it is hazardous and assigned the “F” number corresponding to its description.

#### 5) Other Hazardous Waste Lists

Some states have additional lists of hazardous waste (i.e., PCB wastes, etc.). Review these lists to ensure all solid wastes identified in the waste survey are evaluated.

#### d. Characteristic Wastes

Whether a waste is listed as hazardous or not, the next step is to determine if the waste meets one or more of the characteristics of a hazardous waste. The EPA has established four (4) characteristics for a hazardous waste (i.e., ignitable, corrosive, reactive or toxic). Review the descriptions in Subpart C of 40 CFR 261 (or state equivalent) and determine if any solid waste meets these criteria and assign all the appropriate “D” numbers (Note: this evaluation must be performed even if a waste is a listed waste).

#### e. Empty Containers

Empty containers that held hazardous waste are regulated as hazardous unless the following requirements are met:

- 1) The container’s inner liner is removed;
- 2) All wastes have been removed using common practices (such as pumping, pouring, scraping, etc.), and
  - a) for a 110-gallon or less container, no more than 2.5 centimeters (1 inch) remains on the bottom or inner liner; or
  - b) for containers larger than 110-gallons, no more than 0.3 percent of the weight of the total capacity remains;
- 3) For a compressed gas, the container is returned to atmospheric pressure;
- 4) For containers that held an acute hazardous waste from the list in 40 CFR 261.33(e), the container or inner liner has been triple rinsed with 10 percent of the capacity of the container using a suitable solvent or cleaner or some other approved cleaning technique. Please note that the solvent is now considered a hazardous waste.

#### 2.9.4 Determination of who is the “Generator”

For NWS facilities and work sites that are located on a piece of property owned by the Federal Government (but under the control of the NWS), and are separate from other federal, state and local agencies, the NWS facility is the “generator.” For NWS facilities located in leased space and/or co-located with other governmental agencies or organizations (like a state university), a determination of which entity is the “generator” will be required. This will require a review of existing Memoranda of Understanding (MOU) between all parties. This review is done by the NOAA Administrative Service Center (ASC) who is responsible for the lease. If the NWS facility is the “generator” of a multi-organization site, the NWS and the Facility Manager bear the legal responsibility for proper hazardous waste management for all parties on the site. If another agency or entity is determined to be the generator, the NWS facility must comply with the policies and programs established by the generator under the terms of the MOU.

#### 2.9.5 Type of Generator

The EPA has created three different types of hazardous waste generators based on the quantity of hazardous waste produced at a site.

Each NWS site must determine if it is:

- a. A Very Small Quantity Generator (VSQG) because it produces less than 100 kilograms (220 pounds) of hazardous waste per month and no more than one kg (2.2 pounds) is an acute hazardous waste.

**NOTE:** In a 2017 update to their hazardous waste regulations, the EPA codified the term Very Small Quantity Generator (VSQG), to replace the previously used term Conditionally Exempt Small Quantity Generator (CESQG).

- b. A Small Quantity Generator (SQG) because it produces more than 100 kg but less than 1,000 kilograms of waste per month and no more than one kg (2.2 pounds) is an acute hazardous waste.
- c. A Large Quantity Generator because it produces either 1,000 kilograms (2,200 pounds) or more per month of hazardous waste or one kilogram or more of acutely hazardous waste [wastes that are listed in 40 CFR 261.31, 261.32 or 261.33(e)].

**NOTE:** An NWS facility that produces less than 100 kilograms (220 lbs) of waste per month and is co-located on a site with another governmental agency or private organization may be regulated as a Large Quantity Generator if the aggregate of waste generated on the site by all the tenant units exceeds the 1,000 kilogram limit.

#### 2.9.6 Requirements for Generators

- a. Requirements for the Very Small Quantity Generator

Generators that produce less than 100 kg/month of hazardous waste:

- 1) Must determine which “solid wastes” are hazardous waste,



- 2) Are not required by the EPA to obtain an Identification Number (but some states may still require it and some hazardous waste transporters and disposal contractors demand it),
- 3) May maintain its status if one single event per year (e.g., a chemical clean out or spill) would cause the facility to exceed its monthly limits, also known as an episodic event
  - a. The episodic event may be planned or unplanned
  - b. The VSQG must have or obtain an EPA identification number using EPA Form 8700-12 in the event of an episodic event. For unplanned events (i.e. spills) the form can be submitted within 72 hours of the event
  - c. The VSQG must notify the EPA in the event of an episodic event
    - i. A planned event must be notified at least 30 calendar days prior using EPA Form 8700-12
    - ii. An unplanned event must be notified within 72 hours of the event via phone, email, or fax. EPA form 8700-12 must subsequently be submitted
    - iii. The notification shall include:
      1. Start and end date of the event
      2. Reason for the event
      3. Types and estimated quantities of the hazardous waste expected to be generated
      4. A facility point of contact and emergency coordinator with 24-hour telephone access
    - iv. Waste containers from the episodic event must be marked or labeled with the following:
      1. "Episodic Hazardous Waste"
      2. An indication of the hazards of the contents
      3. The date upon which the episodic event began
    - v. Waste must be managed in a manner that minimizes the possibility of a fire, explosion, or release
    - vi. Waste manifests must be used when shipping waste off site to a designated facility
    - vii. Waste from the episodic event must be manifested and shipped within 60 days of the start of the event
    - viii. Records regarding an episodic event must be maintained for three years
    - ix. A VSQG can file a petition to conduct a second episodic event in a single year provided that the second event is of a different nature than the first (i.e., where the first was planned the second is unplanned and vice versa)

- 4) Can send wastes to:
  - a) A permitted hazardous waste treatment, storage or disposal facility.
  - b) A State-approved solid waste disposal facility (this is not a permitted hazardous waste facility), or, if the local community allows, often these wastes may be taken to the local household hazardous waste collection center.

**NOTE:** If a local household hazardous waste collection center is to be used, Department of Transportation rules for the shipping of hazardous waste will still be applicable. Chapter 3 of this manual details hazardous waste shipping requirements.

- c) A facility that reuses, recycles or reclaims wastes
  - d) A universal waste handler or destination facility for universal wastes
- 5) Have no special training requirements, however best management practices mandate affected personnel be trained how to properly handle the waste and respond to emergencies
- 6) Do not have to file an exception nor annual/biennial report
- 7) Are limited to 1,000 kg of waste in accumulation but have no time limit or special accumulation standards to follow. However, the OSHA HAZCOM Standard and best management practices require appropriate labeling, marking and storage techniques be employed
- 8) Are not required by the EPA to use a manifest except in the case of episodic events. However, best management practice calls for a manifest always be used to document that the wastes were properly managed.
- b. Requirements for the Small Quantity Generator

Generators who produce more than 100 kg/month but less than 1,000 kg/month must comply with the same requirements as Generators who produce more than 1,000 kg/month (see 2.9.6c) except that:

- 1) The personnel training requirements are reduced to proper waste handling and emergency response procedures including completion of manifest and land disposal form
- 2) The time limit for filing the exception report has been extended to 60 days
- 3) Accumulation is extended from 90-days to 180-days or 270 days if the waste is to be shipped more than 200 miles
- 4) The amount of waste that can be accumulated is limited to 6,000 kg.

**NOTE:** If either the weight limit of 6,000 kg or the time limit (180 days or 270 days, if shipped over 200-miles) is exceeded, the EPA considers the material “in storage” (not in accumulation) and a storage permit is required.

- 5) The requirements of 40 CFR 265.173 for Generators who accumulate in containers are met (see 2.9.6c.) except the 50-foot buffer zone is not required for ignitable wastes
- 6) The requirements of Subpart J of 40 CFR 265 are met, if the waste is stored in tanks
- 7) Containers are clearly marked with the accumulation date, the words “Hazardous Waste” and the hazards of the contents of the containers
- 8) The preparedness and prevention standards in Subpart C of 40 CFR 265 are met

Note: Procedures for emergency response to hazardous waste incidents need to be developed and included in Occupant Emergency Plan.
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- 9) One employee is on-site or on-call at all times to act as the Emergency Coordinator
- 10) Emergency telephone numbers are posted in convenient locations
- 11) Employees who handle hazardous waste are trained in proper waste handling protocols
- 12) The Emergency Coordinator(s) has (have) been instructed how to implement a set of pre-written responses to probable emergency scenarios.

c. Large Quantity Generators must:

- 1) Determine which “solid” wastes are hazardous wastes
- 2) Apply for and receive an EPA Identification Number prior to treating, storing, disposing or offering for transport any hazardous waste. If located in an authorized State or Territory, the Generator Identification Number will be obtained by applying to the State or Territory. Facilities in Alaska, Iowa or an unauthorized Territory must apply to the EPA by completing EPA Form 8700-12 that is submitted to the EPA Regional Office.

If assistance is needed, contact the NWS Regional/Operating Unit Environmental/Safety Coordinator, NWS Headquarters Environmental and Safety staff, and/or the NWSH Environmental and Safety staff.

- 3) Store wastes in accordance with the “accumulation” standards in 40 CFR 262.17 prior to off-site shipment by ensuring:
  - a) All wastes are shipped off-site within 90 days of generation

<b>NOTE:</b> If the 90-day limit is exceeded, a hazardous waste facility permit will be required
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b) Containers are:

- In good condition
- Non-leaking
- Compatible with the waste
- Kept closed except when adding or removing
- Managed to avoid rupture
- Inspected weekly

- c) Ignitable and reactive wastes are stored compatibly and are at least 50-feet from the property line. A waiver can be sought from the authority having jurisdiction over the fire code in the event that maintaining 50-feet from the property line is infeasible and alternative, equally protective, measures can be put in place
- d) The containers meet the air emission standards in 40 CFR 264.1086
- e) Containers are clearly marked with the date accumulation began, the words “Hazardous Waste” and the hazards associated with the contents
- 4) The facility has reviewed and complied with the preparedness and prevention standards in Subpart C of 40 CFR 265 that require:
  - a) maintaining and operating the storage facility to minimize possible hazards of fire, explosion, unplanned release
  - b) securing all necessary emergency equipment for communication, fire, spill, etc.
  - c) testing emergency equipment on a periodic basis to ensure functionality
  - d) ensuring access to communication equipment for all emergencies
  - e) maintaining the necessary aisle space between containers
  - f) establishing an arrangement with the local response agency as per NWSM 50-1115, Procedure 25 to ensure proper response in an emergency
- 5) The facility has reviewed and complies with the requirements of Subpart D of 40 CFR 264.52/265.52 that requires establishment of a Contingency Plan and Emergency Procedures

**NOTE:** Review NWSM 50-1115, Procedure 5, Occupant Emergency Plan for guidance

- 6) The facility personnel involved in hazardous waste management have completed a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of [40 CFR 264.16/265.16](#).
- 7) Prepare a uniform manifest before transporting or allowing transport of any hazardous waste off-site.
- 8) Prepare a land disposal notice informing the disposal facility of the components of the waste and the requirements for treatment prior to land disposal
- 9) Package all wastes in accordance with the Department of Transportation (DOT) regulations in 49 CFR 173, 178, and 179.
- 10) Mark and label each package in accordance with DOT regulations in 49 CFR 172.
- 11) Ensure the initial transporter has the appropriate placards in accordance with DOT regulations in 49 CFR 172 Subpart F.
- 12) Retain each copy of the manifest and land disposal notice for at least three years from date of shipment.

**NOTE:** Because of the long-term liability of hazardous waste management actions, retention of these documents until facility's closure is recommended.

- 13) Contact the designated treatment, storage or disposal facility if a signed copy of the manifest is not received within 35 days of shipment.

**NOTE:** Some states have reduced this time limit to 15-days.

- 14) Prepare an exception report in accordance with 40 CFR 262.42 if a signed copy of the manifest is not received from the designated facility within 45-days of shipment

**NOTE:** Some states have a 20-day time limit).

- 15) Prepare an annual or biennial report summarizing the total amount of each hazardous waste shipped off-site to each permitted facility. A copy of this report will also be sent to the NWS Regional/Operating Unit Environmental/Safety Coordinator.

**NOTE:** The EPA requires this report every two (2) years, while many states require an annual submission

d. Satellite Accumulation

The original EPA hazardous waste regulations required generators to ship all hazardous waste within 90 days of generation. Since the 90 days' time clock begins when the waste is first added to the collection container, the EPA found that large numbers of partially filled containers were being shipped to disposal facilities by generators who produced waste at relatively slow rates. To correct this problem, the EPA created the concept of "Satellite Accumulation" that allows generators to "store" (accumulate) a hazardous waste until a container is filled as long as:

- 1) The total volume of the container is less than 55 gallons of hazardous waste or one quart of acutely hazardous waste (the "P" wastes)
- 2) The container is kept near the point of generation and under the control of the operator
- 3) The containers are in good condition
- 4) The containers are kept "closed" except when adding or removing waste
- 5) The containers are marked with the hazards associated with the contents and the words "Hazardous Waste" or words to identify the contents

When the satellite accumulation container is filled, it must be moved to the central accumulation area within three days.

<b>Table 1. Comparison of Hazardous Waste Generator Requirements for Different Types of Waste Generators</b>			
<b>Requirement</b>	<b>Very Small Quantity Generators</b>	<b>Small Quantity Generators</b>	<b>Large Quantity Generators</b>
<b>Quantity Limits</b> The amount of hazardous waste generated per month determines <u>how a generator is categorized</u> and what regulations must be complied with.	≤100 kg/month, and ≤1 kg/month of acute hazardous waste, and ≤100 kg/month of acute spill residue or soil §260.10	>100 and <1,000 kg/month §260.10	≥1,000 kg/month, or >1 kg/month of acute hazardous waste, or >100 kg/month of acute spill residue or soil §260.10
<b>Accumulation Requirements</b> Manage hazardous waste in compliance with certain technical standards.	None	Basic requirements with technical standards for containers, tanks, drip pads or containment buildings  §§262.16(b)(2)-(5)	Full compliance for management of containers, tanks, drip pads or containment buildings  §§262.17(a)(1)-(4)
<b>Accumulation Time Limits</b> Determine amount of time hazardous waste is allowed to accumulate on site.	None	≤180 days or ≤270 days (if transporting greater than 200 miles) §§262.16(b)-(d)	≤90 days §262.17(a)
<b>On-Site Accumulation Quantity</b> Determine amount of hazardous waste generators are allowed to "accumulate" on site without a permit.	≤1,000 kg or ≤1 kg acute hazardous waste or ≤100 kg of acute spill residue or soil  §§262.14(a)(3) and (4)	≤6,000 kg  §262.16(b)(1)	No limit
<b>EPA ID Number</b> <u>Acquire a unique EPA identification number</u> that identifies generators by site.	Not required	Required §262.18	Required §262.18
<b>Manifest</b> Tracking hazardous waste shipments using the <u>multiple-copy manifest</u> - required by the Department of Transportation (DOT) and EPA.	Not required	Required  <u>Part 262 subpart B</u>	Required  <u>Part 262 subpart B</u>

<b>Table 1. Comparison of Hazardous Waste Generator Requirements for Different Types of Waste Generators</b>			
<b>Requirement</b>	<b>Very Small Quantity Generators</b>	<b>Small Quantity Generators</b>	<b>Large Quantity Generators</b>
<b>Contingency Plan and Emergency Procedures</b> Develop procedures to follow during an unplanned major event.	Not required	Basic planning required §§262.16(b)(9)	Full plan required Part 262 subpart M (from §262.17(a)(6))
<b>Personnel Training</b> Ensure appropriate personnel complete classroom or on-the-job training to become familiar with proper hazardous waste management and emergency procedures for the wastes handled at the facility.	Not required	Basic training required §262.16(b)(9)(iii)	Required §262.17(a)(7)
<b>Waste Minimization</b> Certify steps taken to reduce or eliminate the generation of hazardous waste	None	Good faith effort required <u>§262.27</u>	Program in place required <u>§262.27</u>
<b>Facility Type</b> Send off-site shipments to appropriate facilities for management	Facilities noted in §§262.14(a)(5)	RCRA permitted/interim status facility  <u>Parts 264/265, 266/267 and 270</u>	RCRA permitted/interim status facility  <u>Parts 264/265, 266/267 and 270</u>
<b>Recordkeeping</b> Maintain records of waste testing, <u>manifests</u> , <u>biennial reports</u> and exception reports	Not required	Required (except biennial reports)  §262.11(f) and §262.40(a) and (d)	Required  §262.11(f) and <u>§262.40</u>
<b>Closure</b> Close equipment, structures, soils and units by meeting specified performance standards and disposal and decontamination requirements	Not required	Required for tanks, drip pads and containment buildings - Tanks only §262.16(b)(3)(vi) Unit specific Part 265, subpart W and DD for drip pads and containment buildings	Required - General §262.17(a)(8) - Unit specific Part 265, subpart W for drip pads
<b>Preparedness and Prevention</b> Develop procedures to follow	Not required	Required §262.16(b)(8)-(9)	Required Part 262 subpart M (from §262.17(a)(6))

<b>Table 1. Comparison of Hazardous Waste Generator Requirements for Different Types of Waste Generators</b>			
<b>Requirement</b>	<b>Very Small Quantity Generators</b>	<b>Small Quantity Generators</b>	<b>Large Quantity Generators</b>
in the event of an emergency.			
<b>Air Emissions</b> Control hazardous air emissions from tanks and containers	Not required	Not required	Required <u>Part 265 subparts AA, BB and CC</u> from §262.17(a)(1) and (2)
<b>Land Disposal Restrictions</b> Meet standards for placing on the land and associated requirements for certifications, notifications, and waste analysis plans	Not required	Required <u>Part 268</u> from §262.16(b)(7)	Required <u>Part 268</u> from §262.17(a)(9)
<b>Pre-Transport Requirements</b> Package and label hazardous waste for shipment off site to a RCRA facility for treatment, storage, or disposal	Only if required by the DOT or the state	Required §262.16(b)(8)-(9)	Required <u>§§262.30-262.33</u>
<b>Biennial Report</b> <u>Report data from off-site shipments</u> of waste during the previous calendar year	Not required	Not required	Required <u>§262.41</u>
<b>Exception and Additional Reporting</b> Report if any required copies of signed manifests are not received back. Provide information on quantities and disposition of wastes upon request.	Not required	Required <u>§§262.42(b) and 262.43</u>	Required <u>§§262.42 and 262.43</u>

### 2.9.7 Shipping Documents

#### a. Manifest:

##### 1) Requirements

Regardless of the generator classification, prior to transporting or allowing transport of a hazardous waste off-site to a permitted hazardous waste treatment, storage or disposal facility, the generators must prepare a Hazardous Waste Manifest using EPA Form 8700-22. The manifest must include:



- a. The name, EPA ID Number and location of a designated facility where the waste is to be shipped,
- b. A 24-hour emergency contact telephone number in case of an emergency, and a signed waste minimization certificate.

**NOTE:** If a contractor completes the manifest for the NWS facility, the NWS-designated individual must sign the document and assume the liability that all information is correct.

b. Waste Minimization Certification

The manifest includes a generator certification that reads: “Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage or disposal currently available to me which minimizes the present and future threat to human health and the environment.”

By signing the manifest, the generator “certifies” a formal waste minimization program has been established. The manifest should only be signed by the Environmental Focal Point or other trained personnel designated by the Station Manager.

c. The Land Disposal Notification Form

As required by the Land Disposal Restrictions, a generator must also provide the treatment, storage or disposal facility with a notice that clearly informs the facility that the waste either does or does not meet the EPA standards for land disposal. For wastes that do not meet the standard, the generator is required to inform the facility and provide the appropriate treatment standards that must be achieved prior to land disposal. As a courtesy to their clients, this written notice is normally provided by the disposal facility for signature by the generator. The notice will include the EPA identification number, the appropriate treatment standard, the manifest number, and waste analysis data, where applicable.

## 2.9.8 Recordkeeping

a. Generators must retain:

- 1) The copy of the manifest and Land Disposal Notice or Certification signed by the receiving treatment, storage or disposal facility for three years from date of shipment.
- 2) A copy of each Annual Report, Biennial Report and Exception Report for three years.
- 3) A copy of any test results or analysis for three years after that waste was last shipped for treatment or disposal.
- 4) All records if an enforcement action begins until the action is completed.

b. Annual Reporting (Biennial Report):

- 1) A generator who generates over 1,000 kg/month and ships off-site must submit a Biennial Report on EPA Form 8700-13A to the Regional Administrator no later than March 1 for the preceding odd numbered calendar year.
- 2) Many states require the generator to complete an Annual Report to the state regulatory agency no later than March 1 for the preceding calendar year. If required to complete one of these reports, contact the NWSH Environmental and Safety staff for assistance.
- 3) These reports detail the amount of each hazardous waste shipped to each treatment, storage or disposal facility during the previous 12 months. A copy of the annual (or biennial) report will be sent to the NWSH Environmental and Safety staff and/or the NWS Regional/Operating Unit Environmental/Safety Coordinator for review.

## 2.10 Universal Wastes

“Universal Waste” is a solid waste that because of its chemical composition, meets the legal definition of a “hazardous waste” - but - it is recyclable - hence the EPA and most states have decided to reduce the management requirements to encourage their recycling.

If *disposed*, these wastes are “hazardous” and the disposal must comply with all the hazardous waste regulations. These wastes cannot be discarded with the facility’s solid waste or garbage.

If *recycled appropriately*, these wastes are “universal” wastes and subject to a reduced set of requirements.

Contact the NWS Regional/Operating Unit Environmental/Safety Coordinator or the NWSH Environmental and Safety staff to determine if the universal waste requirements are applicable in your state (<https://www.epa.gov/hw/universal-waste#state>).

Currently, the EPA lists the following wastes as Universal Wastes:

- a. All types of batteries including “button” or “watch” batteries
- b. Fluorescent bulbs
- c. Mercury-containing equipment (MCE)
- d. Pesticides

**Special Note:** The EPA has added “mercury containing equipment” to the Federal List of Universal Waste, effective August 5, 2005. This change added thermometers, barometers, manometers, and mercury light switches and similar items to the EPA list of Universal Wastes.

Because this rule reduces the hazardous waste management standards for these wastes, it is effective in authorized state *only* if the state adopts the change.

### 2.10.1 Requirements for Handlers of Universal Waste

In contrast to hazardous waste, the requirements for universal wastes are not based on the amount of waste generated, but rather the amount stored. As a result, the EPA regulates “handlers” of universal waste - not generators. The EPA has two types of handlers: *Small*

*Quantity Handlers* of universal waste who store less than 5,000 kg (11,000 pounds) of universal wastes and *Large Quantity Handlers* who store more than 11,000 pounds.

**Note:** State Universal Waste Programs can be found on the following EPA web page:  
<https://www.epa.gov/hwgenerators/links-hazardous-waste-programs-and-us-state-environmental-agencies>

a. Small Quantity Handlers

NWS facilities that store less than 5,000 kg of universal waste must:

- 1) Segregate and manage them to prevent leakage or release of electrolytes,
- 2) Label and mark containers with one of the following phrases:
  - a. Waste Batteries (or pesticide, etc.)
  - b. Used Batteries (or pesticide, etc.)
  - c. Universal Waste - Batteries (or pesticide, etc.)
- 3) Mark the date when the container first received waste and limit accumulation to **one year**
- 4) Train employees
- 5) Contain all releases
- 6) Ship to another universal waste handler or a universal waste destination facility.

No manifest or other tracking document is required by the EPA - BUT - best management practices mandate that some paperwork documenting the transfer to be maintained.

b. Large Quantity Handlers

NWS facilities that store more than 5,000 kg of universal waste must meet the standards in Subpart C of 40 CFR 273. These handlers:

- 1) Cannot dispose of the universal waste (they must recycle),
- 2) Cannot dilute or treat the universal waste, except in a response to a spill
- 3) Must notify the EPA or State if previous notification as a hazardous waste generator has not been submitted and receive an EPA Identification Number
- 4) Must comply with specific management standards for each waste stored
- 5) Must label and mark containers with one of the following phrases:
  - a. Waste Batteries (or pesticide, etc.)
  - b. Used Batteries (or pesticide, etc.)
  - c. Universal Waste - Batteries (or pesticide, etc.)
- 6) Can store universal wastes up to one year, but must maintain an inventory system that can document the time limit is not exceeded
- 7) Must ensure employees are trained in proper waste handling and emergency response

- 8) Must have an emergency response plan for releases
- 9) Must retain for three years, a record of each shipment of universal waste received or shipped. This record can be a log, invoice, manifest, bill of lading or other shipping document that includes the name and address of the originating universal waste handler or the foreign shipper, the quantity of each type of universal waste and the date of receipt.

### 2.10.2 Batteries

According to 40 CFR Part 273.2(b), “a used battery becomes a waste on the date it is discarded and an unused battery becomes a waste on the date the handler decides to discard it.” It is important to note that because of their chemical components, most batteries (alkaline, lead acid, lithium hydride, etc.) are either a hazardous waste, if disposed of, or a universal waste if recycled. These batteries are **NOT** solid wastes that can be discarded in the trash.

#### a. Lead Acid Batteries

NWS facilities and work sites that generate spent lead acid batteries can manage them either as:

- 1) An exempted hazardous waste under Subpart G of 40 CFR Part 266, or
- 2) A universal waste.

If managed as an exempted hazardous waste, the NWS facility or work site must perform a hazardous waste determination and follow the U.S. Department of Transportation rules regarding shipment of a hazardous material. See Section 3.11.4 of this Manual for specific information regarding DOT-required marking and labeling.

If these batteries are managed as a universal waste, the appropriate universal waste handler standards (Paragraph 2.10.1 a. or b.) must be followed.

Note that the universal waste rule is less complicated.

#### b. Other Batteries

All batteries that are destined for recycling are managed as universal wastes; otherwise, they are hazardous wastes and bear full regulation. NWS facilities and work sites that store less than 5,000 kg total of universal waste must comply with the standards for Small Quantity Handlers in Paragraph 2.10.1 a.

Facilities that store more than 5,000 kg of batteries must comply with the standards in paragraph 2.10.1 b for Large Quantity Handlers of Universal Waste. In addition, these handlers must comply with the EPA or State- specific standards for management of waste batteries (see 40 CFR 273.33).

### 2.10.3 Fluorescent Bulbs

Most NWS facilities generate used fluorescent bulbs. Because these tubes normally contain enough mercury to fail the test for the toxicity characteristic for hazardous waste" or "meet the characteristic definition of a toxic hazardous waste, the bulbs are hazardous waste unless

recycled. As a general rule, recyclers will only accept unbroken tubes and hence broken tubes are usually managed as hazardous waste.

The GE fluorescent tubes with green ends (Ecolux) can be disposed in the garbage. These tubes have over 85% less mercury than the standard tubes and as a result, they pass the EPA Toxicity Characteristic Leaching Procedure for mercury. The test results can be found at

<http://www.gelighting.com/LightingWeb/na/resources/environmental-center/reference-data/>.

**NOTE:** GE warns that although these tubes pass the Federal TCLP test, state and/or local regulations may still regulate their disposal. GE has posted the state regulations and a list of recyclers at:

<http://www.lamprecycle.org/comm-statelaws.shtml>

<http://www.lamprecycle.org/Recyclers.php>

Appendix D to this Manual is a freeware software program that allows the user to print the necessary labels and markings. If help is needed, contact the NWS Regional/Operating Unit Environmental/Safety Coordinator and/or NWSH Environmental and Safety staff and request assistance with locating fluorescent bulb recyclers.

#### **2.10.4 Mercury Containing Equipment**

Some NWS programs such as the Cooperative Observer Program (COOP) still use mercury thermometers. Mercurial barometers used in the past were decommissioned and replaced with electronic pressure instruments, however, they can still be found in historic displays.

Additionally, mercury thermostats, mercury switches or other mercury containing devices can be used at NWS facilities. If these devices are discarded, they are classified as hazardous waste due to the mercury content and must be sent to a permitted hazardous waste facility for treatment, disposal or recycling.

EPA finalized the modification of the Hazardous Waste Program, Mercury Containing Equipment (MCE) on Aug 5, 2005 and included spent MCE in the Universal Waste Rule. The following link provides information on the State-specific Universal Rule requirements:

<http://www.epa.gov/epawaste/hazard/wastetypes/universal/statespf.htm#links>

NWS facilities and work sites that generate spent mercury contained equipment or non-contained elemental mercury, can manage them as:

- a. Hazardous waste under Subpart G of 40 CFR part 260-272
- b. An universal waste when destined for recycling

If managed as hazardous waste, the NWS facility or work site must follow hazardous waste regulations and DOT rules regarding the shipment of hazardous materials. See section 3.11.4 for specific information regarding marking and labeling.

If managed as a universal waste, the appropriate universal waste standard (Paragraph 2.10.1a or b) must be followed.

Mercury containing equipment has been used in hundreds of devices at levels ranging from less than a gram up to several pounds.

Some of the various types of MCE are:

- 1) High Intensity Discharge Lamps
- 2) Mercury Containing Switches – furnace controls, HVAC controls, laboratory and industrial equipment
- 3) Mercury Thermostats
- 4) Silent Wall Switches (Prior to 1991)
- 5) Freezer and Flame Sensors - gas fired devices and pilot lights.
- 6) Manometers/Barometers/Thermometers.
- 7) Float Switches - sump pumps and septic tanks
- 8) Mercury regulators

Each field office should assess their facility and equipment for MCE presence. Both used and unused MCE become wastes on the day when facility decides to discard them. Prior to disposal, it is necessary to check with the NWS Regional/Operating Unit Environmental/Safety Coordinator and/or the NWSH Environmental and Safety staff to determine if there are any State-specific requirements.

Used MCE can be placed in container with non-contained elemental mercury or MCE that is damaged or can cause leakage. The container must be closed and must prevent escape of mercury into the environment or by volatilization or other means.

The universal waste rules allow removal of mercury containing ampoules from the MCE when all precautions are taken – ampoules are removed over/or in a containment device and any spills from broken ampoules are contained. This is usually done by universal waste handlers and is not recommended for NWS facilities.

Other types of MCE with “open mercury housing,” such as barometers and manometers must be managed with more caution. The housing is open on one end and may allow escape of mercury, unless sealed before discarded. (Note: Some devices, such as barometers, are designed to be sealed before transportation). The open housing can be removed from MCE, sealed airtight and managed as ampoules. If not removed, the housing should be sealed prior to transport and the whole device should be placed in a closed container. If this type of MCE cannot be sealed in such a way to prevent release of mercury to the environment, during accumulation and transportation, it is not eligible to be managed under Universal Waste rules.

Examples of methods that would be effective to prevent releases from a smaller device are placing the housing in containers with electrician’s tape or placing the housing in sealed zipper storage bag and then in a secondary container.

Each MCE or container of devices should be marked with one of the following phrases:

- Universal Waste - Mercury Containing Equipment
- Waste - Mercury Containing Equipment
- Used Mercury - Thermostats
- Waste Mercury - Thermostats
- Universal waste - Mercury Thermostats

The collection container or individual device should be marked with the first date of accumulation. MCE can be kept on site only for **one year** from the date they are generated.

All facilities and work locations where mercury containing products are used must have a mercury spill up kit available and train employees on how to respond and use the clean-up kit.

### 2.10.5 Pesticides

Many states sponsor collection programs for unwanted pesticides. Eligibility rules vary from state to state. Collection programs are usually free, but not all materials are accepted. The pesticide must be in a clearly labeled, structurally sound, commercial container. For more information on available programs, visit the link to Pesticide Stewardship Alliance [state pesticide disposal map](#). In some states, it may be necessary to find a commercial disposal company with a permit from the U.S. EPA to dispose of pesticide wastes in accordance with the Resource Conservation and Recovery Act (RCRA). The Universal Waste regulations ease requirements for certain hazardous wastes, including pesticides, for those who generate and transport them. If a recycling facility can be located, NWS facilities and work sites would be required to comply with the appropriate Universal Waste handlers standard (see Paragraph 2.10.1 a. or b.) and the requirements imposed by the recycler.

## 2.11 Specific NWS-Generated Wastes

In performing its mission, the NWS typically generates several specific wastes. These include:

- Used oil from the back-up diesel generator, NEXRAD gear box and maintenance on other equipment
- An ethylene glycol based antifreeze/water mixture from the emergency generator
- A propylene glycol/water mixture from the rain gauges
- Computers and other electronic equipment
- PCBs in old fluorescent light ballasts
- Asbestos in gaskets, floor tile, adhesives, and insulation
- Lead-based paints
- Excess paint

### 2.11.1 Used Oil

Fearing that used oil would be improperly disposed if designated as a hazardous waste, the EPA created a separate management system for used oil under 40 CFR Part 279. **Because most, but not all of the states have adopted the EPA rules, NWS facilities will need to verify state-specific rules** and contact the NWS Regional/Operating Unit Environmental/Safety Coordinator or NWSH Environmental and Safety staff, if assistance is needed.

#### a. Definition of Used Oil

While most of the used oil generated by NWS facilities is regulated under the EPA rules for used oil, the following materials are not used oil and are regulated differently:

- 1) Mixtures of used oil and listed hazardous waste and mixtures where concentrations of halogenated solvents exceed 1,000 ppm. These are regulated as hazardous waste.
- 2) Mixtures of used oil and hazardous waste which exhibit characteristics of Subpart C of 40 CFR 261 (ignitable, corrosive, reactive and toxic). These are also regulated as hazardous waste, except if the mixture only has the characteristic of ignitability - then it is regulated as used oil.

- 3) Mixtures of used oil and diesel fuel mixed on-site by the generator for use in the generator's vehicle. This mixture is not regulated by the EPA. Prior to mixing, however, the oil is subject to the used oil generator standards.
- 4) Materials that are beneficially used and/or derived from used oil not burned for energy recovery. These materials are not solid wastes and hence not regulated as hazardous waste either.
- 5) Wastewater containing "very small quantities of used oil from small spills, leaks or drippings from pumps, machinery, etc. This wastewater is not regulated.
- 6) Oil introduced into crude oil and natural gas pipelines. Again, this oil is only regulated prior to introduction into the pipeline.
- 7) Oil contaminated with PCBs. These are regulated under 40 CFR 761 as PCBs.
- 8) Oil on vessels. This oil becomes regulated as used oil when it is transferred to a shore facility.

b. Rebuttable Presumption

NWS facilities, such as the National Data Buoy Center, that can generate spent oil that is contaminated with salt water must understand a rule called the "rebuttable presumption." Under this rule, the EPA assumes that any used oil that contains 1,000 parts per million (ppm) total halogens (i.e. chlorine, fluorine, bromine or iodine) has been contaminated with a halogenated solvent and hence is a hazardous waste. If a generator can prove the halogens are not due to organic solvents, but are from the salt in seawater, the oil can be handled as non-hazardous. This is a "rebuttal" to the EPA assumption that the waste is hazardous and hence the term "rebuttable presumption." If the halogen content exceeds 4,000 ppm however, the oil is assumed hazardous and the testing will not change this conclusion. Chemical testing may be required to document the type of halogen present (if applicable) in your waste oil.

c. Used Oil Generator Requirements

NWS facilities and work sites that generate used oil will:

- 1) Not mix hazardous waste with used oil,
- 2) Store used oil in tanks or containers that meet the criteria for hazardous waste storage:
- 3) Ensure that containers are in good condition and not leaking
- 4) Ensure that containers are marked with the words **"Used Oil"**

**NOTE:** Appendices D-1 and D-2 to this Manual contain instructions and a link to the Microsoft Word program that can be used to print the necessary marking.

- 5) Ensure that aboveground ancillary equipment handling used oil are marked with the words **"Used Oil"**
- 6) If used oil is released from a container, proper clean-up and reporting are necessary, and

If the total combined quantity of used, unused and in-use oil on-site exceeds 1,320-



gallons, including 55 gallon containers, a Spill Prevention Control, and Countermeasures (SPCC) Plan will be required.

d. Transport

Unlike hazardous waste, NWS facilities are allowed to transport used oil without an EPA Identification Number if:

- 1) The oil is transported in a vehicle owned by the government,
- 2) Not more than 55-gallons is transported at one time,
- 3) The oil is transported to a facility that is registered, licensed, permitted or recognized by a state/county/municipal government to manage used oil, or
- 4) The oil is transported from a remote site to a NWS facility to be accumulated for later disposal.

If the oil is to be transported off-site for recycling or disposal by a contractor, a transporter who has an EPA Identification Number must be used. Refer to Section 3.11.2 for the DOT marking and labeling requirements.

e. Recycle/Disposal

If possible, used oil should be recycled. Contact the NWS Regional/Operating Unit Environmental/ Safety Coordinator and/or the NWSH Environmental and Safety staff if assistance is needed to locate a local contractor.

Normally, contractors that recycle used oil also take used antifreeze.

**SPECIAL NOTE:**

The EPA allows the use of used oil as fuel in a used oil space heater if:

- (1) The heater uses oil generated by the NWS,
- (2) The heater is designed to have a maximum capacity of 0.5 million BTU per hour, and
- (3) The combustion gases are vented to the ambient air.

## 2.11.2 Used Antifreeze (Ethylene Glycol Based) and Propylene Glycol Solutions

a. Emergency Generator

Ethylene glycol based antifreeze solutions are used in diesel emergency generators and other engine cooling systems. Used antifreeze solutions are not EPA hazardous wastes. These wastes are not “listed wastes” nor do they meet any of the four hazardous waste characteristics. Because of the inherent toxicity of these mixtures (they may contain heavy metals such as lead, cadmium, and chromium - only if used in engines), most states regulate disposal of these wastes usually in conjunction with their used oil rules. Offices should not dump spent antifreeze on land or discharge it into a sanitary sewer, storm drain, ditch, dry well, or septic system. Dumping antifreeze can cause serious water quality problems and might harm people, pets, or wildlife. While most states and the EPA do not regulate ethylene glycol based antifreeze solutions as hazardous waste, some have special programs for used antifreeze. Spent antifreeze should be properly disposed of in accordance with state rules or recycled. To determine the requirements for a specific NWS facility or work site contact the NWS Regional/Operating Unit

Environmental/Safety Coordinator or NWSH Environmental and Safety staff. Typically, the used oil contractor will also take used antifreeze/water solutions.

b. Rain Gauge and All Weather Precipitation Accumulation Gauge (AWPAG)

To minimize evaporation, a small amount of oil is normally added to an empty rain gauge and AWPAG. In colder climates technical (food) grade propylene glycol is also added to prevent freezing. Used propylene glycol solutions are not EPA hazardous wastes. The bi-layered liquid cannot be poured onto the ground. It must be collected and properly managed. Most municipal Publicly Owned Treatment Works (POTW) will readily accept this wastewater (but check before using this disposal procedure). To separate the mixture layers, use a device with a bottom drain, such as a picnic jug. The container must be clearly marked “**Oil/Propylene Glycol/Water.**” Appendices D-1 and D-2 to this manual contain instructions and link to Microsoft Word freeware software program that allows the user to print the necessary marking.

The rain gauge liquid can be collected over a period of time at one site or from several sites. After allowing time to separate, drain the bottom water layer of the device and discharge to the sewer. Collect the remaining small oil layer and add it to the used oil containers. For NWS facilities serviced by a septic system, the only disposal option will probably be shipment of the propylene glycol/water mixture off-site - usually by the used oil contractor (Note: Check local requirements).

### 2.11.3 Computers and Other Electronic Wastes

a. Current Status:

Used electronic products are the most rapidly growing problem in waste stream due to their quantity and toxicity. Electronic wastes (E-waste), such as televisions, computers and computer monitors, contain toxic substances, including lead, mercury, cadmium, lithium, brominated flame retardants, phosphorous coatings, and PVC plastics that create dioxins when burned. Although these devices are safe to use, when thrown away they can release these toxics, posing a threat to human health and the environment. If improperly disposed, these materials can release metals which contaminate groundwater. The E-waste management hierarchy is:

- Reusing
  - Recycling
  - Disposal
- 1) Some E-wastes may be regulated as hazardous waste such as cathode ray tubes (CRTs), mercury lamps, circuit boards. To minimize the amount of these items sent to solid waste landfills, on June 12, 2002, the EPA proposed excluding cathode ray tubes (CRTs) or computer monitors from regulation as a hazardous waste if the CRTs are packaged, labeled and stored in accordance with a special set of rules ([40 CFR 261.39](#)).

If a CRT becomes severely damaged and a recycling option is not available, it should be disposed of as a hazardous waste with the EPA Waste ID Number D008.

Several states have also begun modifying how they regulate this waste. While some

regulate it as scrap metal if recycled, some are considering regulating it as universal waste. As a result, the requirements for management and disposal and even the paperwork required for transportation can vary significantly. For example, if a CRT is considered a hazardous waste, a hazardous waste manifest is required. If it is a universal waste, a shipping paper will be required for a large quantity universal waste handler but no paperwork will be required from a small quantity universal waste handler or a scrap metal recycler. Check the state-specific requirements for the recycling or disposal of these items.

b. Scrap Solder and Circuit Boards

Depending on where and when it was manufactured, solder used in electronic circuit boards and other electrical applications may or may not contain lead. If the solder contains lead, it will normally fail the EPA toxicity test for lead and be legally classified as a hazardous waste (D008). If the solder does not contain lead (i.e. lead-free), it is a solid waste (garbage) when disposed. Unfortunately, unless labeled as lead-free, testing is the only way to determine if solder and/or soldered connections contain lead. This normally leaves three options for the disposal of excess solder or electronic equipment containing soldered connections that is not identified as lead-free:

- Dispose as hazardous waste,
- Test for lead and dispose as hazardous if it fails the EPA toxicity test or dispose as a solid waste if it passes the EPA toxicity test,
- Recycle using a recognized recycler. It is recommended to use recyclers that are the third party certified.

c. Current Strategy

To stay in compliance while the EPA and State rules may be changing, never discard any electronic equipment or e-wastes as solid waste. Field offices must follow DOC and NOAA procedures for electronic equipment disposal. Every effort shall be made to reuse or donate electronic equipment. Donation to a third party is possible, but check with the property manager and/or the NOAA personal property handbook:

[http://www.pps.noaa.gov/personal\\_property\\_policies\\_procedures/](http://www.pps.noaa.gov/personal_property_policies_procedures/)

Excess electronic equipment is normally handled through GSA. This usually relieves field offices from handling the computer equipment as E-waste. Documentation of the equipment transfer should be kept in accordance with the personal property excess rules and at least for three years. Information about disposal can be found in the NOAA personal property handbook.

**Special Note:** When disposal through GSA is not feasible, NWS Environmental Focal Points or Personal Property Managers should look for third party certified recyclers (if feasible). Available recyclers can be located:

<http://www.recycleforbreastcancer.org>

<http://www.maine.gov/dep/waste/ewaste/>

<http://www.ecyclingcentral.com>

<http://www.unicor.gov/Recycling.aspx>

#### 2.11.4 PCBs

Older NWS facilities built prior to July 2, 1979 may contain ballasts in fluorescent light fixtures and transformers that contain PCBs.

##### a. Ballasts

After 1979, fluorescent light ballasts were prohibited from containing PCBs and were to be clearly marked “No PCBs.” Although EPA rules allow unmarked ballasts that are assumed to contain PCBs to be disposed in a municipal landfill if they are not leaking, EPA policy recommends these ballasts be disposed at a facility permitted by the EPA to recycle, landfill, or incinerate PCBs. As a result, state rules must be checked prior to disposing of PCB ballasts into a municipal landfill. Some states still regulate these ballasts as listed hazardous waste that would prohibit this disposal option.

##### b. Transformers

Transformers containing a dielectric fluid that contain 500 ppm or more of PCBs are deemed a “PCB transformer” and are regulated by the EPA according to 40 CFR 761. See Section 12 - Polychlorinated Biphenyls for more detailed information regarding the management of PCB transformers.

While in use, PCB transformers:

- 1) Must be equipped with electrical protection to prevent overload or removed from service
- 2) Must be registered with fire response personnel if in use “in or near a commercial building”
- 3) Must have all combustible materials removed from the PCB transformer
- 4) Must be visually inspected quarterly
- 5) Must be visually inspected for leaks daily
- 6) Must be clearly labeled that they contain PCBs
- 7) When taken out of service, PCB transformers:
  - a. Can be stored for up to 30-days on pallets
  - b. Must be incinerated or drained, flushed and then disposed in an EPA-permitted landfill. (Note: this can only be done at an EPA-permitted facility.)

#### 2.11.5 Asbestos

NWS facilities that were constructed prior to 1981 may contain asbestos and/or asbestos-containing materials (ACM). While the EPA has determined that, in general, the prevailing asbestos levels in buildings and the levels of employee exposure appear to be very low, Procedure 31 - Asbestos Safety in NWSM 50-1115 applies.

**NOTE:** Since the EPA's total ban on asbestos products was vacated by the 5th Circuit Federal Court of Appeals, numerous products are being made and put into building materials such as asbestos-cement corrugated sheet, asbestos-cement flat sheet, asbestos clothing, pipeline wrap, roofing felt, vinyl-asbestos floor tile, asbestos-cement shingle, millboard, asbestos-cement pipe, automatic transmission components, clutch facings, friction materials, disc brake pads, drum brake linings, brake blocks, gaskets, non-roofing coatings, and roof coatings .

Generally these materials are being imported from Canada and Mexico and therefore, examination of materials being purchased and MSDS review should be made to ensure no asbestos materials are being put into NWS facilities.

If asbestos is suspected to be present in a NOAA facility, the NWSH Environmental and Safety staff should be contacted. Where the presence of asbestos is confirmed in a NWS facility, an Asbestos Control Program is required.

Should work be required to be performed on a non-NWS facility (i.e. CO-OP housing) that will disturb asbestos siding, either the NWS employee performing the work must be trained as a Class II Asbestos Worker (see Section 17.6.5c) or the work must be done by an approved contractor.

Because the management, control, abatement and disposal of asbestos is regulated by both the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) on the federal level and the state worker safety and environmental agencies as well as local municipalities, NWSH Environmental and Safety staff and the NWS Regional/Operating Unit Environmental/Safety Coordinators should be consulted.

### **2.11.6 Lead-Based Paint**

NWS facilities built before 1978 may have one or more coatings of lead-based paint (LBP). The existence of this paint in employee housing and the removal from these and all other facilities is regulated by the EPA, OSHA and Housing and Urban Development (HUD).

#### **a. Lead-Based Paint in Housing and Child Occupied Areas**

The Real Estate Notification and Disclosure Rule became effective September 6, 1996. The rule requires realtors and landlords of housing to provide purchasers and tenants with information regarding lead-based paints in homes built before 1978. Sellers, landlords and agents must provide purchasers and tenants with an EPA-approved lead hazard information pamphlet. Purchasers are allowed a 10-day period to inspect the housing unit for lead-based paint.

For NWS facilities that incorporate housing units, the NWS Regional/Operating Unit Environmental/Safety Coordinator should be contacted for assistance in identifying the presence of lead-based paint. If confirmed, a lead-based paint awareness program (in which residents must be notified of where the lead-based paint is located) will be established and copies of the EPA-approved pamphlet obtained for distribution to affected employees. The pamphlet includes instructions on what to do if the lead-based paint becomes damaged or peels.

If a NOAA facility has a daycare or public area that children will occupy, the NWSH Environmental and Safety staff should be contacted to assist with determination if lead-based paint is present.

b. Lead-Based Paint in Other Facilities

For NWS facilities other than housing that may contain lead-based paint (LBP), the Regional/Operating Unit Environmental/Safety Coordinator or NWSH Environmental and Safety staff should be contacted prior to any remodeling or renovation project to assist in determining the presence of the lead-based paint and, if removal is deemed appropriate, assistance in securing the qualified contractors.

c. Lead-Based Paint Removal and Disposal

The removal of lead-based paint (LBP) may only be performed by personnel who have successfully attended an EPA-certified training course for lead-based paint removal. Contractors must document and/or verify that personnel used for this effort have the EPA-certified training prior to the initiation of the removal effort.

If lead-based paint residue is generated in the removal of lead-based paint from housing, the “household hazardous waste exemption” in 40 CFR 261.4(b) (1) applies. The residue is not considered a hazardous waste and can be disposed as a solid waste.

If lead-based paint residue is generated in the removal of lead-based paint from an NWS facility that is not considered a housing unit, representative samples of the residue must be tested using the Toxicity Characteristic Leaching Procedure (TCLP) test methodology for the characteristic of lead (D008). If the residue exceeds the regulatory limit for lead, it must be managed as a hazardous waste.

NWS facilities should contact the NWS Regional/Operating Unit Environmental/Safety Coordinator and/or the NWSH Environmental and Safety staff to determine if there are any state modifications to the EPA rules. Information on EPA standards related to lead in paint can be found on: <https://www.epa.gov/lead/hazard-standards-lead-paint-dust-and-soil-tsca-section-403>.

## 2.11.7 Excess Paint

a. Latex Paint

Prior to disposing of any excess latex paint, check the label and/or the Material Safety Data Sheet regarding the components of the paint. Latex paint manufactured prior to 1988 may contain a mercury compound as a fungicide. As a result, excess supplies of this paint usually require disposal as a hazardous waste (D009).

Unless it contains a toxic metal as a pigment, latex paints manufactured after 1988 typically do not meet any of the criteria of a hazardous waste nor are they listed. As a result, excess latex paint does not need to be managed as a hazardous waste. While this paint can be disposed as solid waste (i.e. garbage), it is highly recommended that the following protocol be used:

- 1) Find something to paint and use up the excess, or

- 2) If the state allows, open the container(s) and allow the paint to harden prior to disposal. Note that this option depends on state regulations and the Regional/Operating Unit Environmental/Safety Coordinator or NWSH Environmental and Safety staff should be consulted.

b. Oil-Based Paint

Depending on the solvents used in its manufacture, excess oil-based paint may be regulated as a hazardous waste if:

- 1) It contains a toxic metal listed in Table 1 of 40 CFR 261.24, the toxicity characteristic. The metals of concern include: Barium, Cadmium, Chromium and Lead. If any of these metals are present in an amount that would exceed the maximum concentration allowed in an extract of the paint, the paint must be managed as a hazardous waste.
- 2) It has a flash point below 140°F. If the material safety data sheet or label does not provide this information, a sample may have to be sent to a laboratory for analysis. Contact the NWS Regional/Operating Unit Environmental/Safety Coordinator and/or the NWSH Environmental and Safety staff for assistance in securing the services of a qualified laboratory.

If the oil-based paint does not have a flash point below 140°F nor contain a toxic metal as a pigment, it can be managed as a solid waste (i.e. garbage). Again, it is recommended that the paint be used to paint something or the container(s) left open until the paint hardens prior to disposal.

While state regulations vary significantly, in general, if the oil-based paint does not have a flash point below 140°F nor contain a toxic metal as a pigment, it can be managed as a solid waste (i.e. garbage). Again, it is recommended that the paint be used to paint something or the container(s) left open until the paint hardens prior to disposal. Check with the Regional/Operating Unit Environmental/Safety Coordinator or the NWSH Environmental and Safety staff to determine if the State has any special provisions for excess paint disposal.

### 2.11.8 Rags

In 2014 the EPA changed the regulations regarding solvent contaminated wipes. Wipes including rags used with flammable solvents other than trichloroethylene that would meet the ignitability characteristic for hazardous waste do not need to be treated as hazardous waste provided they contain no free liquids as measured by the EPA's Paint Filter Liquids Test. Essentially this means the rags cannot drip liquid.

Solvent wipes may be accumulated for up 180 days in a closed container labelled "Excluded Solvent-Contaminated Wipes." They may be sent to an EPA approved handling facility including an industrial laundry, a municipal solid waste landfill that meets the design criteria in 40 CFR Part 258.40, a municipal waste combustor regulated under section 129 of the Clean Air Act or a hazardous waste facility. Any free liquid that accumulates in the container due to percolation or compression of the wipes must be separated from the wipes and handled as hazardous waste.

**Note:** Not all states have adopted this EPA regulation so some field offices may still need to dispose of their solvent contaminated wipes as hazardous waste. A listing of adoption of solvent wipes regulation by state can be found here:

<https://www.epa.gov/hwgenerators/where-solvent-contaminated-wipes-final-rule-effect>

Wipes used with trichloroethylene or to clean other types of hazardous material such as toxics, corrosives or reactives are still considered hazardous waste and must be disposed of as such with the proper characterization, labelling, and marking. These wipes must be identified with the same EPA hazardous waste number as the hazardous material cleaned.

### **2.11.9 Aerosol Cans**

If empty, the EPA does not regulate aerosol cans as hazardous waste. If a can is not empty because the contents are no longer needed or the spray mechanism is defective - AND - the contents are a listed or characteristic hazardous waste, the aerosol will be managed as a hazardous waste. Some states have interpreted the EPA definition for a reactive waste in 40 CFR 261.23(6), that is, “It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement” to include aerosol cans as “reactive” because they “explode” when placed in a fire. The EPA has explained that they do not consider aerosol cans as “reactive” since when placed in a fire, the contents of most cans do not detonate nor undergo an explosive reaction and hence the can does not “explode.” The aerosol can is under pressure and will rupture in a fire due to vapor build-up from liquids and gases under containment.

If a NWS facility generates aerosol cans identified by the EPA or state as hazardous, they must be managed and shipped off-site as hazardous waste - or punctured using a commercially-available device to remove the contents and vent the propellant. Normally these devices collect the liquid for later disposal as a hazardous waste and trap the propellant in activated carbon. The punctured, empty can is now regulated as a solid waste (i.e. garbage).

## **2.12 Responsibilities**

### **2.12.1 NWS Headquarters (NWSH)**

- a. The NWSH Environmental/Safety Office will provide assistance to Regional Headquarters, Operating Unit, and field personnel to ensure that NWS facilities comply with requirements of this section.
- b. NWSH will coordinate with SECO, as necessary, regarding compliance issues related to this section.

### **2.12.2 Regional or Operating Unit Environmental/Safety Coordinator**

- a. Will monitor and promote compliance with the requirements of this section at field offices or Operating Unit facilities.
- b. Will ensure that procedures are implemented at Regional Headquarters or Operating Unit facilities to properly manage waste.



**2.12.3 Station Manager**

- a. Will have oversight over the implementation of this section and ensure that the requirements of this section are followed by individuals at the NWS facility.
- b. Will ensure sufficient personnel and funding are available to enable compliance with all applicable requirements of this section.
- c. Will ensure that procedures are developed at NWS field offices for proper management of all wastes generated.
- d. Will ensure NWS employees follow the requirements of this section.
- e. Will review or delegate review of this section on an annual basis to ensure that the facility is complying with its requirements. Confirmation of this review will be forwarded to the Regional or Operating Unit Environmental/Safety Coordinator.

**2.12.4 Environmental or Environmental/Safety Focal Point or Designated Person**

Will ensure that any tasks delegated to them by the Station Manager are implemented in accordance with the requirements of this section.

**2.12.5 Employees**

- a. Individual employees affected by this section are required to read, understand and comply with the requirements of this section.
- b. Report all violations of the requirements of this section to their supervisor or Environmental Focal Point.

**2.13 References**

Incorporated References

The following list of references is incorporated as a whole or in part into this section. These references can provide additional explanation or guidance for the implementation of this section.

**2.13.1 U.S. Environmental Protection Agency**

40 CFR 260	Hazardous Waste Management System
40 CFR 261	Identification and Listing of Hazardous Wastes
.4	Exclusions
.7	Residue of hazardous waste in empty containers
.9	Requirements for Universal Wastes
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
.11	Hazardous waste determination
.13	Generator category determination
.14	Conditions for exemption for a very small quantity generator
.15	Satellite accumulation area regulations for small and large quantity

	generators
.16	Conditions for exemption for a small quantity generator
.17	Conditions for exemption for a large quantity generator
.23	Use of the manifest
.40	Recordkeeping
.41	Biennial report
.42	Exception reporting
50-.58	Exports of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities
.1086	Air Emission Standards for Containers
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities
.16	Personnel Training
.173	Management of Containers
40 CFR 273	Standards for Universal Waste Management
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions

### 2.13.2 National Weather Service

Manual 50-1115	Occupational Safety and Health	Procedure 30 - "Office Safety"
Policy Directive 50-51	Environmental Compliance (September 5, 2002)	

### 2.13.3 U.S. Department of Transportation

49 CFR 172	Hazardous Materials Table, Special Provisions, "Hazardous Materials Communications, Emergency Response Information and Training Requirements"
173	Shippers - General Requirements for Shipments and Packaging
178	Specifications for Packaging
179	Specifications for Tank Cars

**ATTACHMENT A - WASTE SURVEY FORM**

## 1. Facility Identification

Facility Name/Type \_\_\_\_\_ Facility POC \_\_\_\_\_

Address \_\_\_\_\_ Date \_\_\_\_\_

## 2. Basic Waste Information

Name of Waste \_\_\_\_\_

Generated When/By \_\_\_\_\_

The waste is ☐ spent (used) ☐ unused virgin material (excess) ☐ off spec product☐ stored less than 90-days ☐ stored over 90-days ☐ treated ☐ disposed on this siteQuantity Generated ☐ per month ☐ per year ☐ one time

## 3. Waste Description:

CIRCLE APPROPRIATE BLOCKS						
PHYSICAL STATE @70°F				VISCOSITY @ 70°F		
SOLID	LIQUID	SEMISOLID		LOW	MEDIUM	HIGH
LAYERING				APPROXIMATE % LAYERING BY VOLUME		
				_____ % TOP,		_____ %,
NONE	BILAYERED	MULTILAYERED		_____ %,		_____ % BOTTOM
SUSPENDED SOLIDS				DISSOLVED SOLIDS BY WEIGHT		
<5%	5-20%	>20%	WEIGHT or VOLUME	<5%	5-20%	>20%
SPECIFIC GRAVITY @ 60°F				OTHER INFORMATION:		
<0.8%	0.8-1.0	1.0-1.2	1.2-1.4	1.4-1.7	>1.7	

## 4. Waste Composition

Known Constituents \_\_\_\_\_

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5. Waste Hazards

Is this waste:

\_\_\_\_\_ ignitable? (Flash point less than 140°F, flammable solid, ignitable compressed gas)

\_\_\_\_\_ corrosive? (pH less than 2.0 or greater than 12.5)

\_\_\_\_\_ reactive? (Unstable, reacts violently or creates explosive vapors with water, generates toxic gases, detonates, or is a forbidden explosive)

\_\_\_\_\_ toxic? (Contains arsenic, benzene, cadmium, lead, mercury, silver, or other contaminant listed in Table 1 in 40 CFR 261.24)

\_\_\_\_\_ a spent solvent?

\_\_\_\_\_ infectious? (sewage, biomedical)

\_\_\_\_\_ radioactive?

\_\_\_\_\_ a universal waste? (Battery, fluorescent bulb, unused pesticide)

Does the waste contain        asbestos        PCBs    Lead-based paint?

6. Storage Data

Storage Container    ☐ Drum        ☐ Bulk

Material of Construction of Container \_\_\_\_\_

Storage Location \_\_\_\_\_

How Long is it Stored (Max) days? \_\_\_\_\_

7. Shipping Data

Shipping Container    ☐ drum        ☐ bulk

Material of Construction of Container \_\_\_\_\_

Which Label(s) are Applied? \_\_\_\_\_

Which Markings are Applied? \_\_\_\_\_

Are Placards Provided?    ☐ Yes        ☐ No If so, which?

Current Hauler \_\_\_\_\_ Cost \_\_\_\_\_

Hauler's Address \_\_\_\_\_

Phone Number \_\_\_\_\_ Hauler EPA ID No. \_\_\_\_\_

8. Treatment/Disposal Information

Current Disposal Method \_\_\_\_\_

Is This Waste Treated/Disposed \_\_\_\_\_ On-site \_\_\_\_\_ Off-site

If Off-site, it is Treated/Disposed by \_\_\_\_\_

Location of Treatment/Disposal Facility \_\_\_\_\_

Cost \_\_\_\_\_ Facility EPA ID No. \_\_\_\_\_

9. Assessment

Is This Waste ☐ a Solid Waste ☐ a Hazardous Waste ☐ a PCB Waste

☐ an Asbestos-containing Waste ☐ a Universal Waste

Is More Information Required? ☐ Yes ☐ No

Is Testing Required? ☐ Yes ☐ No

The Assigned EPA Hazardous Waste No. \_\_\_\_\_

10. Completed By

Name \_\_\_\_\_ Title \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_